UDC 355.233.1:005.52:004.942

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THE MODEL OF OPERATIONAL FUNCTIONING OF A BATTALION TACTICAL GROUP OF THE NATIONAL GUARD OF UKRAINE DURING PARTICIPATION IN STABILIZATION ACTIONS

The content of the stages of the model of functioning of a battalion tactical group of the National Guard of Ukraine during its participation in stabilization actions is proposed and substantiated. The scientific novelty of the model lies in the fact that, unlike existing ones, it is based on a systems approach that combines simulation and scenario-based modeling. These elements determine the requirements for the functional and numerical composition of the temporary formation of the National Guard of Ukraine, as well as specific elements of the planning process (military decision-making) at the operational level according to NATO standards. This enhances the flexibility and effectiveness of battalion tactical groups during stabilization activities.

The model implements a method for determining the rational composition of battalion tactical groups of the National Guard of Ukraine for participation in stabilization actions, which enables optimal allocation of forces and assets under conditions of resource constraints and potential risks that may negatively affect the operational environment and the achievement of planned results.

Keywords: *set of indicators, functioning model, simulation modeling, situational modeling, military decision-making process, battalion tactical group of the National Guard of Ukraine, stabilization actions.*

Statement of the problem. During the deterrence and repulsion of the russian armed aggression against Ukraine, as well as in the post-conflict period, effective conduct of stabilization actions and stabilization operations becomes particularly important for ensuring national security. These activities are usually carried out under special legal regimes in crisis areas with a high level of threats, including liberated territories, controlled border regions, and areas with a complex operational environment.

Currently, one of the key actors conducting stabilization actions is the National Guard of Ukraine (NGU). Considering significant changes in the nature of threats, the dynamic evolution of the situation, and the need to perform a wide range of tasks within designated areas (sectors) of responsibility, National Guard units predominantly operate in the form of battalion tactical groups (BTGs), which are capable of responding flexibly to challenges and successfully achieving the objectives of stabilization actions.

At the same time, the accumulated experience and conclusions drawn from the participation of NGU units in stabilization actions confirm that, under complex and dynamic conditions, limited resources, and the necessity of interaction with other components of the security and defense sector during joint missions, the effective functioning of BTGs requires scientifically grounded methodological approaches to formalizing the stages of planning and conducting stabilization activities with their involvement.

One such approach is modeling the processes of functioning of NGU BTGs as complex military organizational systems. Developing and substantiating a model of BTG functioning will make it possible to structure its key stages, determine the logical relationships between them, and study the properties and features of this temporary formation under resource constraints with regard to real and potential challenges and threats arising during its employment.

Given the above, scientific development and justification of a model for the functioning of NGU BTGs during stabilization actions is highly relevant and necessary for improving the management of

National Guard units in the context of contemporary military and security challenges.

Analysis of recent research and publications. The issue of modeling specific processes related to the functioning of various types of systems within the context of mission execution and the exercise of authorities by structural elements of Ukraine's security and defense sector has been examined in a number of scholarly works [1–7]. In particular, the author of publication [1] developed a model for selecting courses of action for units of the State Border Guard Service of Ukraine during stabilization operations under crisis situations of a military nature. This model is based on game theory methods, supplemented by the Analytic Hierarchy Process (AHP), which enables ranking the possible courses of action according to the criterion of maximizing the operational capabilities of the units involved in stabilization operations.

Given the similarity in the content and nature of certain stabilization tasks performed by units of different agencies, this approach may partially serve as a basis for formalizing the stage of developing and approving the *concept of operations (CONOPS)* for such activities, which depends on the selected course of action. However, to model the full spectrum of processes associated with the functioning of a National Guard of Ukraine battalion tactical group (BTG), additional models and methods must be applied.

In the scientific work [2], using the method of synthesis of structures of information and control systems by mathematical transformation of matrices of incidence taking into account the priority of implementation of functional directions, an information- analytical model was developed, that allows to substantiate the components of the information process in the control system of the military command of the National Guard of Ukraine during actions to protect law and order in conditions of a state of emergency. The specified model allows to automate the processes of receiving, processing and visualization of information flows to ensure the reliability, efficiency and quality of information when forming the composition of forces and means of the BTGr NGU, as well as in the course of responding to changes in the situation during the performance of stabilization actions. However, the idea of the internal behavior of the mentioned system is not limited only to these functional stages.

Very interesting is the research [3], which represents an analytical and stochastic model of conducting combat operations by artillery units during fire support in offensive operations. The probabilistic characteristics of this process are described using the theory of random processes with a finite set of consecutive permanent changes in their functional states under the influence of environmental factors and control factors under conditions of possible enemy fire. At the same time, despite its scientific value, the described model has limited suitability for revealing the content of the functioning of the NGU BTG in stabilization operations, since it is focused exclusively on the combat component and does not take into account the organizational, management and supply components, the peculiarities of the legal regime in which the troops operate, as well as the complex nature and specificity of the tasks being performed. In addition, the activities of the BTG during stabilization are not amenable to simple discretization of states – decisions are made under conditions of uncertainty of the operational environment, multifactorial influence and constant adaptation.

In the study [4], a mathematical model for assessing the system effectiveness for restoring armaments and military equipment and providing them with material resources is proposed, and it is based on the probability of performing a set of works performed within a given time. For this purpose, a semi-Markov model of the subsystem for restoring weapons and military equipment and providing them with material resources in the general logistics system of the Armed Forces of Ukraine was used. The considered model is relevant for the tasks of analyzing the stability and reliability of logistics processes, however, it does not cover the full cycle of the military organizational system during participation in stabilization operations. In addition, probabilistic assessment in a fixed time interval does not allow modeling the adaptive dynamics of the unit's response to changes in environmental conditions, which is a characteristic feature of stabilization. In view of this, the specified model may be useful for detailing individual processes of the support subsystem, but requires significant addition or integration within a more complex model of the functioning of the BTG of the NGU.

The author of publication [5] examines a model for command and control of an operation (combat) conducted by a troop (force) grouping, as well as methods for achieving information and cognitive superiority over the adversary by applying

situational control during the preparation and execution phases of the operation. However, the conceptual limitation of this approach lies in its exclusive focus on high-intensity combat operations conducted by force groupings, which does not fully correspond to the specifics of stabilization operations, where the emphasis shifts from active fire engagement of the adversary to the minimal use of force. At the same time, information and cognitive superiority during stabilization is achieved not only through rapid response to adversary actions but also through effective interagency coordination and ensuring that the actions of friendly forces comply with the legal framework of a state of emergency or martial law (special period).

The scientific article [6] presents a model of the functioning of the technical support system (TSS) of the service and combat operations of the National Guard of Ukraine, which includes methods of simulation and situational modeling, an expert method, and a forming rational method system of technical support of the NGU groups. The organizational structure of the specified system is formalized in the form of a tuple of interconnected parameters that reflect the logic and sequence of technical support processes. However, the model is mainly focused on optimizing the internal processes of the TSS functioning, therefore, for its prospective use to describe the stages of planning and conducting stabilization actions of the NGU BTG, it requires adaptation taking into account the specifics of this activity.

In study [7], a mathematical decision-making model was developed for determining the employment methods of National Guard of Ukraine units, taking into account their interactions with crowd control during civil disorders. The model allows selecting from a set of features – including crowd situations, types of actions, tactical techniques, and unit tasks – those attributes that are optimal in terms of capabilities and the degree of mission accomplishment. However, stabilization operations are typically conducted under special legal regimes, which may include prohibitions on mass gatherings that could trigger unrest. Consequently, to develop a comprehensive model of the functioning of an NGU battalion tactical group, a systems approach is required, which incorporates other key components of stabilization activities beyond the scope of the presented mathematical model.

The analysis of scholarly works on the topic indicates that existing approaches to modeling these processes are largely focused on solving individual applied tasks and do not provide a comprehensive and systemic understanding of the functioning of a military organizational system during participation in stabilization operations. These circumstances underscore the need to address an important scientific task for both the theory and practice of NGU unit employment – namely, modeling the functioning processes of a BTG during the execution of the aforementioned activities.

The purpose of the article is to develop a functioning model of a National Guard of Ukraine battalion tactical group during participation in stabilization operations, as well as to substantiate and formalize its key processes.

Summary of the main material. Achieving the objectives of stabilization operations in crisis areas by NGU units requires in-depth analysis and the usage of tools capable of adequately reflecting all essential aspects of their functioning. The application of modern organizational systems management theory allows for the creation and proper formalization (description) of a complex military organizational system, in particular an NGU BTG participating in stabilization operations. The conceptual basis of this process is a scientific approach grounded in the principles and methods of modeling.

In this article, the term "complex system model" should be understood as a structured representation of its features, elements, connections, and behavioral characteristics, that allows the reproduction and studying of the functioning of the modeled object under given conditions.

Currently, in military science research, mathematical modeling methods are widely applied; however, these methods require a complete set of precise input data. In conditions of rapid changes and uncertainty, this is often insufficient, as such methods are not always effective for solving the tasks at hand. Despite the formal integrity and soundness of the relevant mathematical theories, their practical application in decision-making at the military management level remains limited. Attempts to explain this situation solely by insufficient training of command personnel or a lack of highly qualified specialists have not received empirical confirmation. Consequently, the scientific community recognizes a persistent gap between normative decision-

making models and the actual practice of management under conditions of uncertainty and operational complexity. In this regard, simulation and scenario-based modeling methods of situation development processes, as well as system analysis as a fundamental methodology for addressing complex management tasks, are increasingly gaining prominence in studies of military organizational systems.

The application of the methodological principles of a systems approach and analysis for studying the key issues of the operational functioning of an NGU battalion tactical group during participation in stabilization operations is well justified. This is due to the necessity of making command decisions under conditions of dynamic changes, uncertainty, ambiguity, lack of information, and limited time, when choosing among alternatives is complicated by factors that are difficult or impossible to quantify precisely. At the same time, systems analysis provides a comprehensive understanding of the structural and functional organization of the BTG, simulation modeling allows for reproducing and studying the dynamics of the system's behavior, and scenario-based modeling enables assessment of the operational effectiveness of the temporary military unit under various stabilization operation scenarios. Here, the effectiveness of the BTG is considered an integral determinant of its ability to achieve planned (defined) objectives.

In modeling systems of relatively low complexity, it is often possible to apply a well-known mathematical relationship between the performance indicator and controllable variables; that is, the model can be represented as a sufficiently simple and understandable function with a system of constraints in the form of ratios, equations, or inequalities.

When studying the effectiveness of an NGU BTG's functioning during participation in stabilization operations, it is advisable to represent it in the form of an analogue model. Such a model is a conditional description of the structural unit of the Guard that reflects the main stages of its functioning, the logic of interrelations between them, as well as the properties and behavioral characteristics of the military organizational system under the relevant operational conditions. One possible form of its implementation for a BTG is a structural diagram, which enables command and control personnel to visualize, describe, and improve the quality of managing the functioning processes of the temporary formation, taking into account the objective and subjective factors that influence the outcome and the effectiveness of its employment in stabilization operations.

The development of the model is based on a systems approach to studying the creation and employment of elements of a military structure for participation in stabilizing the situation in crisis areas, which makes it possible to comprehensively cover the organizational, functional, resource, and managerial aspects of the formation, service-combat employment, and comprehensive support of an NGU BTG during preparation for and conduct of stabilization operations.

The proposed model of an NGU BTG's functioning during participation in stabilization operations is presented in Figure 1.

The formalized representation of the modeled object is developed using the approach applied in study [6] and is presented as a range of parameters:

$$Y = \langle B, B_0, C, C_0, D, P, K, V_{t.so.}, S, O_0, U_0 \rangle,$$

where B is the set of scenarios (courses of action) for troop employment;

B_0 is the probable crisis situations that emerge and evolve within each scenario (course of action);

C is the composition of forces and assets of the NGU BTG;

C_0 is the alternative variants of the NGU BTG composition ;

D is the directive documents guiding the implementation of the NGU BTG in stabilization operations;

P is the resources for the preparation and cohesion training of the NGU BTG;

K is the configuration of NGU BTG forces and assets within the area of responsibility;

$V_{t.so.}$ is the scope of stabilization-operation tasks;

S is the comprehensive support measures for the implementation of the NGU BTG during stabilization operations;

O_0 is the operational environment in the crisis area during the conduct of stabilization operations;

U_0 is the adjustments to the organizational structure, and changes in the nature and methods of action of the NGU BTG during mission execution.

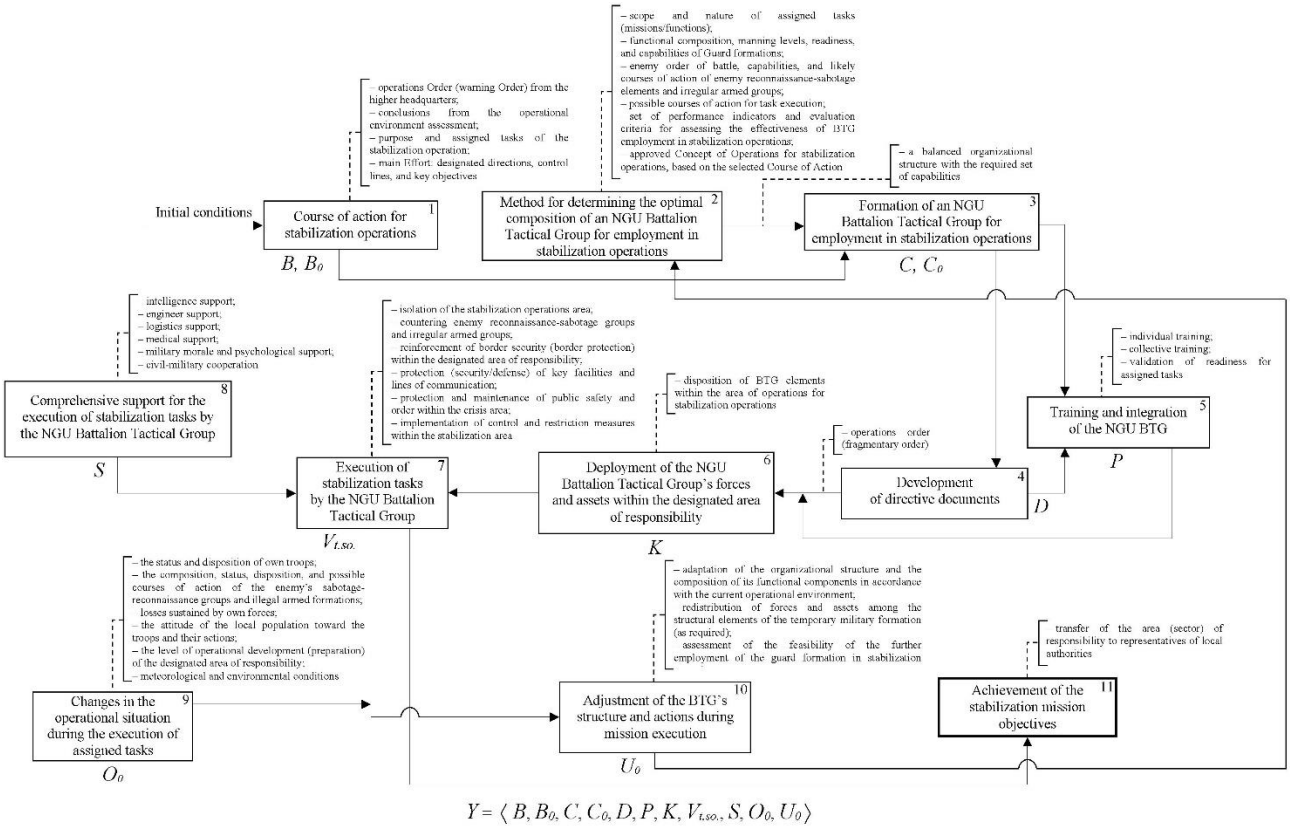

Figure 1 – Model of the functioning of the Ukrainian National Guard Battalion Tactical Group during stabilization operations

It is essential to understand that each parameter of the model must possess a clearly defined physical meaning determined by the nature and objectives of the process, the properties of the system that implements it, and the influence of external factors.

The developed model integrates methods of simulation and situational modeling [8], with primary attention devoted to the goal-setting process – namely, the formation of the purpose of BTG functioning, which defines the requirements for the functional and personnel composition of the temporary NGU formation during preparation and while participating in stabilization tasks. Furthermore, to enhance the individual, specialized (combat) capabilities of Guard units for the joint execution of missions with the military formations of NATO member states, the model incorporates selected elements of the operational-level planning (military decision-making) process in accordance with NATO standards [9, 10, 11]. The sequence in which these elements are executed – expressed through specific processes and procedures of the military decision-making process (MDMP) – together with their underlying logic, coherence, and analytical rigor, plays a critical role in the effectiveness of stabilization-operations planning and in the command and control of NGU BTG forces and assets during mission execution.

The structural design of the model (Figure 1) encompasses the processes of planning the implementation (formation), preparation, deployment, mission execution, comprehensive support, and adjustment of the composition and actions of the NGU BTG during stabilization activities. At the same time, the initial conditions acquire primary importance for the implementation of these processes, as they determine the starting point of the system's functioning and define the specific variant of stabilization operations (Figure 1, block 1). These conditions include the existing operational situation, the purpose and tasks of the stabilization operations, the axes, boundaries, and key objects where the main effort is to be concentrated, and other relevant information received by the commander from the higher headquarters in the form of an operations order (or warning order), which directly specifies the mission assigned to the subordinate unit.

Upon receiving the corresponding directive document, the commander and staff initiate the first stage of the model – planning the implementation of the BTG. This includes determining the composition of forces and assets (block 2), which is an integral component of stabilization organization operations involving NGU units.

To develop the organizational structure of the temporary National Guard formation, a method for determining the optimal composition of the NGU BTG for participation in stabilization operations is applied (block 3). This method is based on expert evaluation, a priori ranking, SWOT analysis, simulation modeling, the use of a decision-making matrix (table), functional-cost analysis, and the normative approach. These tools are logically interrelated and arranged in a coherent sequence. The outlined method incorporates selected processes and procedures of the NATO-standard military decision-making process, adapted for the task of synthesizing the BTG force structure. In addition, it takes into account for required balance between the combat potential necessary for missions involving combat operations and the capabilities needed to perform other service-combat tasks during stabilization activities.

Based on the results of determining the balanced and most appropriate staff of the BTG, based on the approved plan of stabilization actions, the basis of which is the selected variant of the method of performing tasks, and the decision made by the commander (chief), the headquarters prepares operations order (OPORD) [fragmentary order (FRAGO), order on the use of individual functional components of the BTG, order on types of supply (block 4)], which assigns tasks to the subordinate forces and means of the BTG of the NGU.

The next stage of the model, which emphasizes the importance of continuous planning throughout the entire process of the BTG operation, is the preparation and coordination of its structural elements (block 5). This includes: individual training, which includes the training of the BTG management, commander training, training of specialists and other personnel; collective training as part of the combat order groups, which is carried out during tactical and special exercises (tactical and special classes), as well as part of the BTG management, which is carried out in the form of staff (joint staff) training; checking the readiness of the Guard combat unit to perform assigned tasks with the preparation of the appropriate act. These activities can also be carried out simultaneously with the planning of stabilization actions, depending on the available time for preparation for them as a whole and the chosen method of work of the commander (chief) and staff.

Completion of the process of preparing and coordinating the NGU BTG, aimed at forming an adequate level of personnel readiness to accomplish assigned tasks, creates the necessary conditions for transitioning to the stage of deployment and concentration of the formation's forces and assets within the area of responsibility (block 6). This stage is defined by indicator K, which is proposed to be characterized by the following parameters:

$$K = \{(u_i, x_i, y_i, t_i, f_i)\}_{i=1}^{n}, \quad (1)$$

where u_i is the name/designation of the BTG combat formation element;

x_i, y_i is the location coordinates of the BTG subunit (element of the combat formation);

t_i is the time of completion of the deployment (concentration) of the BTG unit (battle formation element) in a designated location;

f_i is the functional role of the BTG units (combat formation elements);

n is the the number of BTG subunits (combat formation elements) included in the configuration;

i is the index (serial number) of the unit (element of the combat order) of the BTGr.

Further functioning of the temporary military unit lies in performing tasks in the areas of service and combat activity of the troops (block 7), which is actually the implementation of the most important stage of achieving the goal of stabilization actions. The volume of defined tasks of the temporary military unit as the main indicator of this stage is calculated by the expression

$$V_{t.so.} = \sum_{i=1}^{k} \left(N_i^{e(g)cf} + N_i^{gp} + N_i^{ndd} \right), \quad (2)$$

where $N_i^{e(g)cf}$ is the number of elements (groups) of the combat formation required to carry out a task of the i-type;

N_i^{gp} is the number of guard posts needed to accomplish a i-type task;

N_i^{ndd} is the number of duty details required to perform a task of the i-type;

k is the number of mission types.

To sustain the combat readiness and operational effectiveness of the NGU BTG and to create favorable conditions for the successful execution of tasks during stabilization operations, comprehensive support to the formation is provided. This constitutes a separate stage of the model (block 8). The support measures for employing the BTG during stabilization activities are reflected in the indicator *S*, which is structurally represented as a set of elements.

$$S = \{S_{i.s.}, S_{es}, S_{l.s.}, S_{m.s.}, S_{mps}, S_{cimic}\}, \quad (3)$$

where $S_{i.s.}$ is the Intelligence Support;

S_{es} is the Engineer Support;

$S_{l.s.}$ is the Logistics Support;

$S_{m.s.}$ is the Medical Support;

S_{mps} is the Morale and Psychological Support;

S_{cimic} is the Civil-Military Cooperation.

At the same time, alongside the fundamental processes that shape the functioning model of the Guard's combat unit, an important component is the indicator reflecting changes in the situation during the execution of assigned tasks. This indicator captures the dynamic nature of the operational environment in stabilization operations and directly affects the outcome and effectiveness of employing the BTG. The situation within the crisis area is determined by a set of factors, among which the most significant are: the condition and disposition of own forces; the composition, condition, disposition, and possible courses of action of the enemy's sabotage and reconnaissance elements and illegal armed groups; own force losses; the attitude of the local population toward the troops and their actions; the degree of operational development of the designated area of responsibility; meteorological and environmental conditions, and other relevant factors.

Subsequently, taking into account the current conditions of the situation and based on the results of monitoring and assessing the progress of task execution, the next stage (block 10) involves adjusting the composition and actions of the NGU BTG. This process is required because the employment of the formation in its previous configuration did not fully ensure the attainment of the ultimate objective of stabilization operations. In such a case, the adjustment involves applying the previously described method for determining the optimal BTG composition (block 2) and consists of adapting the organizational structure and the composition of its functional components to the prevailing situation, reallocating forces and assets among the structural elements of the temporary military formation (if necessary), and assessing the feasibility of the further employment of the Guard formation in the course of stabilization operations.

If the continued functioning of the BTG under the revised conditions is deemed feasible, the sequence of procedures described above remains in effect. The final stage of the model involves the completion of operational (tactical) tasks within the framework of stabilization activities conducted either by an interagency force grouping or independently, culminating in the achievement of the assigned objective (block 11). Following the conclusion of the NGU unit's deployment, the designated area (sector) of responsibility is formally transferred to representatives of local governmental authorities through the issuance of an official handover act.

In summary, the model presented above provides a structured organizational representation of the full cycle of an NGU BTG's functioning in stabilization operations. It offers an integrated view of its formation, preparation, deployment, employment, resource support, adjustment of composition and actions, and the management of these processes under specified conditions.

Conclusions

Thus, based on the analysis of the existing scientific and methodological apparatus for modelling the functioning processes of complex military organizational systems, the article refines the model of the operational functioning of a battalion tactical group of the National Guard of Ukraine during stabilization activities. The updated model comprehensively encompasses the organizational, functional, resource, and managerial dimensions of its formation, operational employment, and integrated support.

The scientific novelty of the model lies in its reliance on a systems-based approach that, unlike existing solutions, integrates both simulation and scenario-situational modelling. These components determine the requirements for the functional and numerical composition of the temporary formation of the National Guard of Ukraine, and incorporate selected elements of the operational-level planning process (military decision-making) in accordance with NATO standards, thereby enhancing the flexibility and effectiveness of the battalion tactical

group during stabilization activities. In addition, the model employs a method for determining the optimal composition of the battalion tactical group of the National Guard of Ukraine for participation in stabilization activities, enabling the optimal allocation of forces and assets under resource constraints and potential risks that may adversely affect the development of the situation and the achievement of the planned outcomes.

Presenting the above-mentioned model in the form of a structural scheme, including through the mathematical representation of specific processes within the system, will provide the commanding personnel of the National Guard of Ukraine with a theoretical and practical basis for a unified understanding and standardization of the mechanisms for organizing the execution of tasks by a battalion tactical group. This approach will support the determination of its optimal structure, the procedures for its employment, and the management of this military formation during stabilization activities in a crisis area.

The direction for further research involves assessing the effectiveness of the developed method for determining the optimal composition of the battalion tactical group of the National Guard of Ukraine for participation in stabilization actions.

References

1. Horbatiuk A. P. (2018). *Model pryiniattia rishennia shchodo sposobiv dii elementiv sluzhbovo-boiovoho poriadku orhaniv okhorony derzhavnoho kordonu v stabilizatsiinykh diiakh* [Model of making decisions concerning methods of operation for service and fighting order elements of the state border guard units in stabilization actions]. *Nauka i tekhnika Povitrianykh Syl Zbroinykh Syl Ukrainy*, no. 4, pp. 99–106 [in Ukrainian].

2. Oleshchenko O. A., Iokhov O. Yu., Bielai S. V. (2022). *Model informatsiino-analitychnoho zabezpechennia systemy upravlinnia viiskovoho komanduvannia pid chas dii z okhorony pravoporiadku* [Model of information and analytical supply of the military command management system during law enforcement operations]. *Chest i zakon*, no. 2, pp. 36–41 [in Ukrainian].

3. Repilo Yu. Ye., Holovchenko O. V. (2021). *Model vedennia boiovykh dii artyleriiskymy pidrozdilamy pid chas vohnevoi pidtrymky u khodi vedennia nastupalnykh dii* [The model of combating by artilleryunits during fire support during offensive actions]. *Suchasni informatsiini tekhnolohii u sferi bezpeky ta oborony*, no. 1, pp. 153–162 [in Ukrainian].

4. Dachkovskyi V. O., Strelbitskyi M. A. (2020). *Matematychna model funktsionuvannia systemy vidnovlennia ozbroiennia ta viiskovoi tekhniky* [Mathematical model of system functioning restoration of weapons and military equipment]. *Suchasni informatsiini tekhnolohii u sferi bezpeky ta oborony*, no. 2, pp. 87–94 [in Ukrainian].

5. Zahorka O. M., Snitsarenko P. M., Zahorka I. O., Servatiuk V. M. (2022). *Uzahalnena model upravlinnia operatsiieiu (boiem) uhrupovannia viisk (syl)* [A generalized model for managing an operation (battle) of a grouping of troops (forces)]. *Zbirnyk naukovykh prats Tsentru voienno-stratehichnykh doslidzhen Natsionalnoho universytetu oborony Ukrainy imeni Ivana Cherniakhovskoho*. Kyiv : NUOU, no. 3, pp. 58–61 [in Ukrainian].

6. Kaidalov R. O., Adamchuk M. M., Torianyk D. O. (2022). *Model funktsionuvannia systemy tekhnichnoho zabezpechennia sluzhbovo-boiovykh dii uhrupovannia Natsionalnoi hvardii Ukrainy* [Functioning model of the system of technical support of service and combat actions group of the National guard of Ukraine]. *Chest i zakon*, no. 3, pp. 117–122 [in Ukrainian].

7. Nazarenko O. L. (2018). *Model pryiniattia rishennia shchodo vyznachennia sposobiv zastosuvannia formuvan Natsionalnoi hvardii Ukrainy z urakhuvanniam yikh protystoiannia z natovpom za umov masovykh zavorushen* [Decision-making model to determine methods of deployment of the National guard of Ukraine formations during riot control actions]. *Chest i zakon*, no. 2, pp. 83–88 [in Ukrainian].

8. Tkachenko V. I., Smirnov Ye. B. et al. (2008). *Teoriia pryiniattia rishen orhanamy viiskovoho upravlinnia* [Theory of Decision-Making by Military Management Bodies]. Kharkiv : KhUPS [in Ukrainian].

9. *Metodychni rekomendatsii z planuvannia ta orhanizatsii boiu za standartamy NATO (shtab bryhady (batalionu) ta yim rivnykh), zatverdzheni komanduvachem Sukhoputnykh viisk Zbroinykh Syl Ukrainy 14.11.2020 (VP 7(5)-00(11)03.01)* [Methodological Guidelines for Planning and Organizing Combat Operations According to NATO Standards (Brigade (Battalion) Headquarters and Equivalent Units), Approved by the Commander of the Land Forces of the

Ukrainian Armed Forces on November 14, 2020 (VP 7(5)-00(11)03.01)] [in Ukrainian].

10. *Poriadok "Roboty komandyra ta shtabu taktychnoi lanky upravlinnia z planuvannia boiu (boiovykh dii) za standartnymy operatsiinymy protseduramy NATO" (shtab bryhady (polku), batalionu ta yim rivnykh), zatverdzhenyi Nachalnykom Heneralnoho shtabu Zbroinykh Syl Ukrainy 05.2021 (TKP 3-(00)152(03).01)* [Order "Work of the Commander and Headquarters of the Tactical Management Echelon in Planning Combat Operations (Combat Actions) According to NATO Standard Operating Procedures" (Brigade (Regiment), Battalion Headquarters, and Equivalent Units), Approved by the Chief of the General Staff of the Ukrainian Armed Forces in May 2021 (TKP 3-(00)152(03).01)] [in Ukrainian].

11. *Metodychnyi posibnyk "Protses pryiniattia viiskovoho rishennia" (bryhada), zatverdzhenyi komanduvachem Desantno-shturmovykh viisk Zbroinykh Syl Ukrainy 2022 (DshVP 5-03(151).17)* [Methodical Manual "Military Decision-Making Process" (Brigade), Approved by the Commander of the Airborne Assault Forces of the Ukrainian Armed Forces in 2022 (DshVP 5-03(151).17)] [in Ukrainian].

The article was submitted to the editorial office on 1 September 2025

УДК 355.233.1:005.52:004.942

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МОДЕЛЬ ФУНКЦІОНУВАННЯ БАТАЛЬЙОННОЇ ТАКТИЧНОЇ ГРУПИ НАЦІОНАЛЬНОЇ ГВАРДІЇ УКРАЇНИ ПІД ЧАС УЧАСТІ У СТАБІЛІЗАЦІЙНИХ ДІЯХ

Запропоновано й обґрунтовано зміст моделі функціонування батальйонної тактичної групи Національної гвардії України під час участі у стабілізаційних діях. Модель є умовним описом структурної одиниці гвардії, який відображує основні етапи її функціонування, логіку взаємозв'язків між ними, властивості та поведінкові характеристики військової організаційної системи у відповідних умовах обстановки.

В основу розроблення моделі покладено системний підхід до вивчення проблематики створення і застосування елементів військової структури для участі у стабілізації обстановки в кризових районах, що дає змогу комплексно охопити організаційні, функціональні, ресурсні та управлінські аспекти формування, службово-бойового застосування, а також усебічного забезпечення батальйонної тактичної групи Національної гвардії України у ході підготовки та ведення стабілізаційних дій.

Наукова новизна полягає у тому, що розроблена модель, на відміну від застосовуваних наразі моделей, ґрунтується на системному підході, який поєднує імітаційне та сценарно-ситуаційне моделювання, що визначатимуть вимоги до функціонально-чисельного складу тимчасового формування Національної гвардії України, а також окремі елементи процесу планування (прийняття військового рішення) на оперативному рівні за стандартами НАТО, що підвищать гнучкість і ефективність функціонування батальйонної тактичної групи під час участі у стабілізаційних діях. Крім того, у моделі застосовується метод визначення раціонального складу батальйонної тактичної групи Національної гвардії України для участі у стабілізаційних діях, який дасть змогу оптимально розподілити сили і засоби в умовах ресурсних обмежень і можливих ризиків, здатних негативно вплинути на розвиток обстановки та досягнення запланованих результатів.

Ключові слова: *кортеж показників, модель функціонування, імітаційне моделювання, ситуаційне моделювання, процес прийняття військового рішення, батальйонна тактична група Національної гвардії України, стабілізаційні дії.*

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